

Step by step Instructions for Basic Operation of SWC MapService Snow Data Tools

In your internet browser access the State Water Commission's homepage by going to <http://www.swc.nd.gov>.

Select the "Map and Data Resources" link in the left margin.

Select "Map Service . . ." under the MapServices heading.

A map of North Dakota and its counties will appear.

Select the "Show Layers" button along the right edge of the map window.

Select "Snow Data" in the column on the right (click on the folder icon).

A message pop-up will appear, click "OK."

Click the triangle next to "Snow Water Equivalents."

A list of dates will appear (021910 equals February 19, 2010, as an example).


Select the box next to your date of interest, and a color-coded layer will appear.

Click on the date numbers and a legend will pop-up showing the amount of water equivalent for each color (the pop-up can be closed or drug out of the way as needed).

To zoom in to any area of interest, navigation tools are at the top of the map window.

Make sure that the "Snow Water Equivalent" layer is selected in the menu box in the top right corner of the window.



If  is selected, the user will get a pop-up box with and estimate of inches of water equivalent at any point clicked on the map (a pop-up will appear with the number of inches of water equivalent). Click OK to close that pop-up then select another point.



If  is selected, the user can define a polygon over an area of interest.

A new pop-up will appear in the upper left hand corner of the map window showing the latitude/longitude of the select polygon corners.

In that pop-up menu, near the top, click on "Query in Polygon."

Another pop-up box will appear with the Water Equivalent data for that polygon area, including:

- Selected area in acres
- Average volume in acre-feet
- Average water equivalent in inches
- Minimum water equivalent in inches
- Maximum water equivalent in inches

Click “OK” to close the pop-up box.

Click “Undo” to remove the polygon corner points.

Click “Close” to close the polygon box.

Snow water equivalent data is available for all the dates listed in the Layers Menu.

This procedure can be followed to delineate as many polygons and/or selected dates as the user wishes.

The user may also obtain water equivalent data based on watershed boundaries. This will require creating a user account, which is easy and free.

In the “MapService” window, click the “log on” button in the lower right corner of the map window.

Click on “New User” and follow instructions for creating a user name and password.

Use this name and password to log on.

In the layers column, as before, select the “Snow Data” layer and the date of interest.

In the layers column (“Show Layers” button on right edge of map window), select the “Hydrography” layer.

The user may select HUC12, HUC10, or HUC8 watershed boundaries. The appropriate boundaries will appear on the map (zoom in until they appear).

Be certain that “Snow Water Equivalent” is selected as the active layer (upper right corner of the window).



Select and a new menu box will pop-up.

In the upper left corner of that menu box, in the drop down menu, select “Polygon from Other Layer.”

Choose the polygon source layer (example – “HUC12 Sub-Watersheds”).

Click the “Ready to Select” button.

Click within the watershed boundary of interest.

It may take a moment to calculate. When completed, a pop-up box will appear with the information pertinent to that watershed, this includes:

- Selected area in acres
- Average volume of water equivalent in acre-feet
- Average inches of water equivalent
- Minimum inches of water equivalent
- Maximum inches of water equivalent

Click “OK” to close the various pop-up boxes, and follow the same procedure to look at data for different dates and/or watersheds.